

## GOMPHUS PARVIDENS, A NEW SPECIES OF DRAGON-FLY FROM MARYLAND.

By BERTHA P. CURRIE,

*Of the Bureau of Entomology, United States Department of Agriculture,  
Washington.*

The new species described herein was collected in a field along the Anacostia River just west of the Laurel and Berwyn trolley line. Here the river, in some places only a few yards wide, meanders for some distance through weedy fields. The banks, in some places low and level and in others from one to several feet high and abrupt, are bordered here and there with trees of a low growth. The stream is broken in places by rapids or riffles and here and there, during low water, are bars of sand or gravel. It was a cloudy afternoon in late May, and the only dragonflies secured were a few specimens of *Ischnura posita* and the single *Gomphus* on which this description is based.

My thanks are due to Mr. E. B. Williamson, of Bluffton, Indiana, for reading the manuscript of this paper and contributing valuable suggestions.

### GOMPHUS PARVIDENS, new species.

*Male*.—Length of abdomen, including appendages, 28.5 mm.; length of hind wing, 24 mm. Colors dark brown or black, and yellow. Head yellow, black or brown as follows: Rear of head on upper half, hind margin of occiput, vertex, antennæ, frons basally, a fine line on fronto-nasal suture, minute spots at base of labrum, and tips of mandibles. Postocellary vertical ridge somewhat sinuous, not attaining the eyes. Occiput about same height as level of eyes, slightly convex, without median prominence or spine.

Prothorax dark brown, yellow as follows: Front lobe, except line on hind margin widening to a patch at each end; on median lobe, a lateral patch and a geminate median spot; anterior to this a pale triangular depression with apex to the rear (this may darken with age); on hind lobe, a median spot.

Mesothorax dorsally brown to beyond the humeral suture, marked with yellow as follows: Mesothoracic semicollar except for a slight interruption at middorsal carina; a line along middorsal carina from crest to collar; a pair of dorsal stripes one-third to one-half of a millimeter in width, divergent anteriorly and uniting with ends of semicollar; a narrow, slightly sinuous antehumeral stripe, interrupted above,<sup>1</sup> the part above interruption a wider spot; and the posterior part of antealar sinus. Lobes between wings yellow. Mesothorax and metathorax laterally yellow, except an interrupted narrow stripe on first lateral suture, a narrow stripe on second lateral suture, and other markings as in diagram (pl. 27, fig. 2); ventrally yellow. Legs dark brown, front femora inferiorly and coxae yellow; hind femora extending to about the center of abdominal segment 2, armed with numerous short spines, the hairs inconspicuous. Wings (pl. 27, fig. 1) hyaline; veins black, pterostigma brown, membranule gray; two cells between  $A_1$  and  $A_2$  at their origin, the proximal and anterior of these the first postanal cell, the other the distal part of the divided second postanal cell; the first postanal cell not divided; neither  $A_1$  nor  $A_2$  distinctly angled, two rows of cells between them to the wing margin.<sup>2</sup>

Abdomen black or dark brown, yellow as follows: On segments 1 and 2, a middorsal stripe, narrowed apically on 2, and a lateral stripe including the auricles on 2; on base of 3, a small dorsal spot, pointed behind, and a larger lateral one; on base of 4 to 7, a similar dorsal and a small lateral spot; on 8 and 9, a broad lateral patch; 10 ventrally. Segments 7 to 9 moderately expanded, narrower than the thorax; segment 8 slightly longer on dorsal than on ventral side;<sup>3</sup> 8 longer than 9; hind margin of 10 somewhat produced middorsally.

Superior appendages (pl. 28, figs. 1, 2, and 3) dark brown or black, a little longer than segment 10, acute apically, bearing a small, sym-

<sup>1</sup> This interruption is narrow and perhaps may not always occur.

<sup>2</sup> The characters in the postanal cells in the genus *Gomphus* have been studied by Mr. Williamson and the results published by him. (See Williamson, E. B. "The subgenus *Stylurus* Needham: Selys' groups VI and VII of the genus *Gomphus* (Odonata), and on the postanal cells of the latter." In Trans. Amer. Ent. Soc., vol. 27, pp. 205-217, pls. 8, 9. May, 1901. *Gomphus parvidens* falls under 1, 1', and 1'' in Mr. Williamson's table, page 215.

The following corrections should be made in his paper:

Page 205, lines 13 and 16, for *second* read *first*.

Page 214, under the heading, "North American species," in line beginning "6. *G. soridus*," for *sp. a.* read *s. pa.*

In key, page 215, in referring to branches of anal vein, throughout for *first* read *second*, and for *second* read *first*.

Page 216, in explanation of Plate 8, *f.—f.* is second branch and *s.—s.* is first branch of anal vein; and *i. e.* is part of first branch of anal vein.

Page 217, under explanation of Plate 9, line 3, for *pcnus* read *penis*.

<sup>3</sup> Mr. Williamson has shown that the shape of the apex of segment 8 of the abdomen is difficult of accurate definition as a distinctive character. (See Williamson, E. B., "*Gomphus pallidus* and two new related species (Odonata)." In Ent. News, vol. 25, pp. 49-58, pls. 4, 5. February, 1914. See pp. 50 and 58 and pl. 4, fig. 8.)

metrical, nearly vertical inferior tooth at about three-fourths distance from base to apex; in ventral aspect of the appendage (pl. 28, fig. 2) this tooth is located at the posterior end of an ovate concavity. Inferior appendage (pl. 28, figs. 1, 2, and 3) laterally and apically black, hairy, about the same length or a little shorter than the superiors, not extending so far laterad, its hind margin moderately excavate.

Accessory genitalia of second segment (pl. 28, fig. 7): Anterior hamules pale yellow at base, dark apically and behind; posterior hamules nearly vertical (directed a little posteriorly), large, pale yellow, ending in a hook, brown at tip, which is directed forward and, viewed ventrally, inward; vesicle large, erect, dark brown, laterally shiny.

*Type-locality*.—Lakeland, Prince Georges County, Maryland.

*Type*.—Cat. No. 20367, U.S.N.M.

Described from one specimen collected by the author May 22, 1915, while it was resting in a field along the Anacostia River.

Before the drawings and photograph were made and the description drawn up, the specimen of *Gomphus parvidens* met with an accident, in which the left superior appendage was lost and the wings were slightly damaged. When collected the specimen was not fully chitinized, and in consequence segment 10 is somewhat distorted ventrally; but it was bristled, pinned, and spread the day after collection and there was little if any fading or discoloration of the bright markings in drying.

*Gomphus parvidens* (pl. 28, figs. 1, 2, 3 and 7; pl. 27, figs. 1 and 2) may be distinguished from *G. brevis* Hagen (pl. 28, figs. 6 and 10; pl. 27, fig. 3), *G. abbreviatus* Hagen (pl. 28, figs. 4 and 8), and *G. viridifrons* Hine (pl. 28, figs. 5 and 9), to which it seems most nearly related, by the narrower pale stripes of the thoracic dorsum (compare pl. 27, figs. 2 and 3), the more symmetrical shape of the male superior appendages, viewed laterally, and the shape of the accessory genitalia of the second segment.

The following key will help in distinguishing the males of these four species:

*Key for the separation of the males of Gomphus parvidens, G. brevis, G. viridifrons, and G. abbreviatus.*

1. Dorsal thoracic pale stripe (pl. 27, fig. 3) anteriorly from one-half as wide to wider than adjoining middorsal dark area; apical half of superior appendage viewed from side bilaterally unsymmetrical..... 2
- Dorsal thoracic pale stripe (pl. 27, fig. 2) anteriorly about one-fourth as wide as adjoining middorsal dark area; apical half of superior appendage viewed from side almost bilaterally symmetrical.....*parvidens*.

2. Face heavily lined with black; superior appendages about same length as inferior appendage ----- *brevis*.  
 Face not lined with black; superior appendages plainly longer than inferior appendage ----- 3
3. Rear of head black, except for one or more small spots near margin of eye; inferior appendage in lateral aspect strongly narrowing in apical half; genital vesicle in lateral aspect long, slender, its apical half directed slightly backward ----- *viridifrons*.  
 Rear of head pale on lower half, black on upper half; inferior appendage in lateral aspect not strongly narrowing in apical half; genital vesicle in lateral aspect short, stout, erect ----- *abbreviatus*.

The following material has been studied: The single male of the new species *Gomphus parvidens*, described herein; 34 males and 34 females of *G. brevis* and 7 males and 4 females of *G. abbreviatus*, collected at Orono, Maine, during June and July of 1898 and 1899 by F. L. Harvey and Bartle Harvey (Coll. U.S.N.M.); and a male of *G. viridifrons*, collected at Ohio Pyle, Pennsylvania, June 25, 1900, by E. B. Williamson (Coll. E. B. Williamson).

The specimens from which the drawings were made are so labeled and, with the exception of *Gomphus viridifrons*, are in the collection of the United States National Museum.

#### EXPLANATION OF PLATES.

##### PLATE 27.

Figure 1 is from a photograph by Mr. H. J. Paine, of the Bureau of Entomology. The outlines in figures 2 and 3 are adapted by the writer from one used by Mr. E. B. Williamson in illustrating markings in the genus *Cyanogomphus*.

FIG. 1.—*Gomphus parvidens*. Male, dorsal view, X 2.

2.—*Gomphus parvidens*. Diagram showing pattern of thoracic markings.

3.—*Gomphus brevis*. Diagram showing pattern of thoracic markings.

##### PLATE 28.

FIGS. 1-3 and 7. *Gomphus parvidens*. 1. Terminal abdominal appendages of male, dorsal aspect. 2. Same, ventral aspect. 3. Same, lateral aspect. 7. Accessory male genitalia of second abdominal segment, lateral aspect.

4 and 8. *Gomphus abbreviatus*. 4. Terminal abdominal appendages of male, lateral aspect. 8. Accessory male genitalia of second abdominal segment, lateral aspect.

5 and 9. *Gomphus viridifrons*. 5. Terminal abdominal appendages of male, lateral aspect. 9. Accessory male genitalia of second abdominal segment, lateral aspect.

6 and 10. *Gomphus brevis*. 6. Terminal abdominal appendages of male, lateral aspect. 10. Accessory male genitalia of second abdominal segment, lateral aspect.

Drawings for all figures executed by Miss Esther Hart, of the Bureau of Entomology.